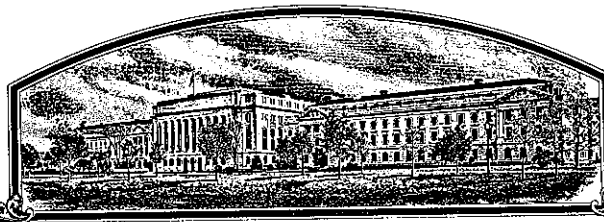


No.

8200151



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Dekalb-Pfizer Genetics

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'MDF-13D'



In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington
this 27th day of February in
the year of our Lord one thousand nine
hundred and eighty-four.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R. Block
Secretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY MDF-13D		1b. VARIETY NAME MDF-13D		FOR OFFICIAL USE ONLY PV NUMBER 8200151	
2. KIND NAME CORN		3. GENUS AND SPECIES NAME Zea Mays		FILING DATE 8/12/82	TIME 11:30 A.M. P.M.
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION 1978		FEE RECEIVED \$ 500.00 \$ 250.00	DATE 8/12/82 12/5/83
6. NAME OF APPLICANT(S) DEKALB-PFIZER GENETICS <i>DeKalb-Pfizer Genetics</i>		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Sycamore Road DeKalb, IL 60115		8. TELEPHONE AREA CODE AND NUMBER 815/758-3461	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Partnership			10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION		11. DATE OF INCORPORATION
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Eric Christophersen; DEKALB-PFIZER GENETICS 3100 Sycamore Road DeKalb, IL 60115					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☒ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.) ☐ YES ☒ NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? ☐ YES ☐ NO

14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? ☐ YES ☒ NO (If "Yes," give name of countries and dates.)

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☐ YES ☐ NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

August 4, 1982

(DATE)

John W. McCarter, Jr.
(SIGNATURE OF APPLICANT)

President

1

(DATE)

(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

- 5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.
- 13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.
- 13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.
- 14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)
- 15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.



2881 21 000
RECEIVED

Origin and Breeding History of Dent Corn Inbred MDF-13D

- Summer 1961: The cross H4101 (Oh45 x C103) x 800M (Lancaster Composite) was made at DeKalb, Illinois. Inbred H4101 was planted in the 800M composite and detasseled. The 800M composite was used as the male. S₀ seed from the ears was bulked. (1961 Nursery Book Row Number 21693).
- Winter 1961: Seed of the topcross H4101 x 800M was sent to Homestead, Florida for self pollination. All self pollinated ears were sent to DeKalb, Illinois. The S₁ seed was bulked. (1961 Nursery Book Row Number 7-4636).
- Summer 1962: The S₁ generation of the single cross H4101 x 800M was grown at DeKalb, Illinois and self pollinated. The S₁ generation was represented by a single row. S₂ seed from selected plants was bulked. (1962 Nursery Book Row Number 26684).
- Winter 1962: S₂ bulk seed was sent to Homestead, Florida and self pollinated. The S₂ generation was represented by a single row. All self pollinated ears were sent to DeKalb, Illinois. The S₃ seed from selected ears was bulked. (1962 Nursery Book Row Number 7-5215).
- Summer 1963: S₃ bulk seed was planted at DeKalb, Illinois and self pollinated. The S₃ generation was represented by a single row. S₄ seed from selected ears was bulked. (1963 Nursery Book Row Number 31318).
- Summer 1964: S₄ bulk seed was planted at DeKalb, Illinois and self pollinated. The S₄ generation was represented by two rows. Two ears were selected from the two rows. Each ear was shelled separately. The S₅ seed from ear number one was coded MDF-13A. (1964 Nursery Book Row Number 23900).
- Summer 1965-
1976: Inbred line MDF-13A maintained by self pollination of bulk seed from previous generations.
- Winter 1976: Twelve plants of MDF-13A were grown in the greenhouse at DeKalb, Illinois under Eradicane herbicide. Three plants tolerant to Eradicane were self pollinated. Two self-pollinated ears were harvested and shelled separately. (1976 Greenhouse Nursery Book Row Numbers 55 and 56).
- Summer 1977: Seed from ear number one was planted in a single row at DeKalb, Illinois and self pollinated. Ears from selected plants tolerant to Eradicane herbicide were bulk shelled. (1977 Nursery Book Row Number E-45).

Origin and Breeding History of Dent Corn Inbred MDF-13D Cont.

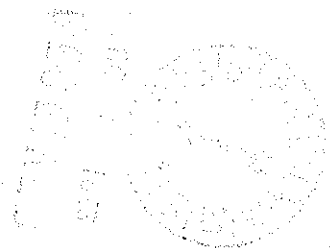
Winter 1977: Bulk seed from row E-45 was planted in the greenhouse at DeKalb, Illinois for observation of tolerance to Eradicane herbicide. Bulk seed from E-45 was coded MDF-13D. (Greenhouse Nursery Row Number 4-19 and 7-38).

Summer 1978: Initiation of seed increase of MDF-13D and testcrossing of hybrids.

The initial cross of H4101 x 800M and subsequent selection in each of the segregating generations up to the coding of MDF-13A at the S₅ generation was made by Dr. Basil Tsotsis. The selection, purification, and coding of MDF-13D as an inbred tolerant to Eradicane herbicide was conducted by Dr. John H. Pfund.

The inbred line MDF-13D has been self pollinated and selected for enough generations to assure uniformity of the line. Agronomic characters such as plant height, ear height, tassel type and ear type are very uniform for the parent line MDF-13A. However, in 1976-1978 a further purification was done when MDF-13D was selected for Eradicane resistance, a character only visible when planted in conjunction with Eradicane. The isozyme analysis did not exhibit any residual variation.

The Illinois Crop Association, Inc. has certified several seed lots of MDF-13D which indicates that the line is uniform and stable. Enclosed are copies of certification of MDF-13D. (Exhibit A. Appendix I.)



8200151

03370/1/002
DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendix I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416496

Lot No. 0486-81
Pedigree MDF-13D
Code CW300
CORN, FIELD

Kind & Variety (Producers Declaration)
FOUNDATION 0486

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	79 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	21 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.67 %	Test Weight	60.50 LBS.
Weed Seeds	.00 %	Moisture	8.00 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.33 %	Dockage from 1,000 grams:	
Broken Seed	.32 %		
Other Inert	.01 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

BROKEN SEED
CHAFF

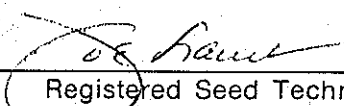
REMARKS: GRADE-F3

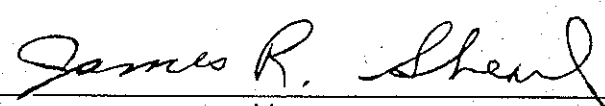
This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053


Registered Seed Technologist


Manager

03370/1/002
DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendum I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416497

Lot No. 0486-81

Kind & Variety (Producers Declaration)
FOUNDATION 0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	84 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	16 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.97 %	Test Weight	61.80 LBS.
Weed Seeds	.00 %	Moisture	8.00 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.03 %	Dockage from 1,000 grams:	
Broken Seed	.02 %		
Other Inert	.01 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

BROKEN SEED
CHAFF

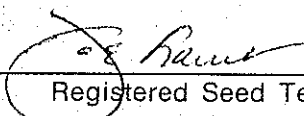
REMARKS: GRADE-F4

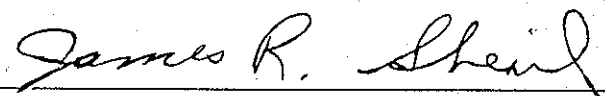
This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053


Registered Seed Technologist


Manager

8200151

03370/1/002

DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendix I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416498

Lot No. 0486-81

Kind & Variety (Producers Declaration)

FOUNDATION 0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	82 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	18 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.87 %	Test Weight	60.80 LBS.
Weed Seeds	.00 %	Moisture	8.00 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.13 %	Dockage from 1,000 grams:	
Broken Seed	.02 %		
Other Inert	.11 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

BROKEN SEED
CHAFF

REMARKS: GRADE-F5

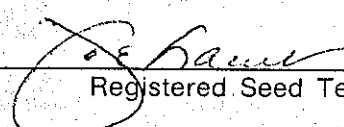
This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

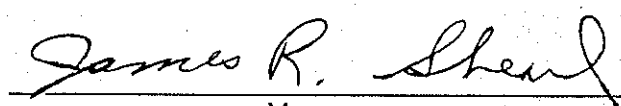
ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053

REC'D JUL 6 1982


Registered Seed Technologist


Manager

03370/1/002
DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendix I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416499

Lot No. 0486-81

Kind & Variety (Producers Declaration)
FOUNDATION

0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	93 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	7 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.97 %	Test Weight	61.50 LBS.
Weed Seeds	.00 %	Moisture	8.00 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.03 %	Dockage from 1,000 grams:	
Broken Seed	.02 %		
Other Inert	.01 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

BROKEN SEED
CHAFF

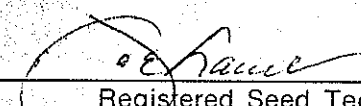
REMARKS: GRADE-F6


This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053


Registered Seed Technologist


Manager

03370/1/002

DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendix 1

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416500

Lot No. 0486-81

Kind & Variety (Producers Declaration)

FOUNDATION 0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	69 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	31 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.93 %	Test Weight	62.20 LBS.
Weed Seeds	.00 %	Moisture	8.00 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.07 %	Dockage from 1,000 grams:	
Broken Seed	.06 %		
Other Inert	.01 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

BROKEN SEED
CHAFF

REMARKS: GRADE-R12

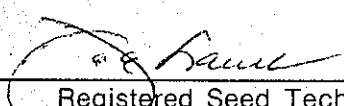
This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

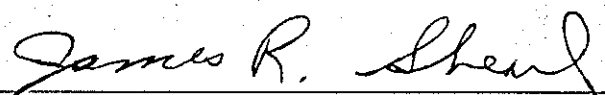
ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053

FEB 23 1982


Registered Seed Technologist


Manager

03370/1/002

DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendix I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416501

Lot No. 0486-81

Kind & Variety (Producers Declaration)

FOUNDATION 0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	75 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	25 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.99 %	Test Weight	59.70 LBS.
Weed Seeds	.00 %	Moisture	8.00 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.01 %	Dockage from 1,000 grams:	
Broken Seed	.00 %		
Other Inert	.01 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

CHAFF

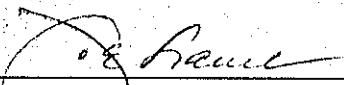
REMARKS: GRADE-R13

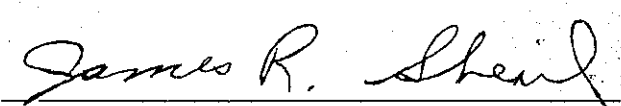
This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053


 Registered Seed Technologist


 Manager

03370/1/002

DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendix I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416502

Lot No. 0486-81

Kind & Variety (Producers Declaration)

FOUNDATION 0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	87 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	13 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.97 %	Test Weight	60.50 LBS.
Weed Seeds	.00 %	Moisture	8.00 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.03 %	Dockage from 1,000 grams:	
Broken Seed	.02 %		
Other Inert	.01 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

BROKEN SEED
CHAFF

REMARKS: GRADE-R14

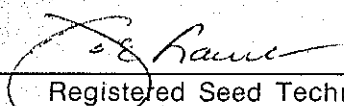
This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

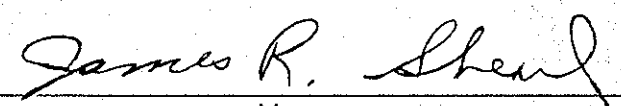
ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053

FEB JUL 6 1982


 Registered Seed Technologist


 Manager

03370/1/002
DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendum I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416503

Lot No. 0486-81

Kind & Variety (Producers Declaration)

FOUNDATION 0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	89 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	11 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.99 %	Test Weight	61.90 LBS.
Weed Seeds	.00 %	Moisture	8.00 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.01 %	Dockage from 1,000 grams:	
Broken Seed	.00 %		
Other Inert	.01 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

CHAFF

REMARKS: GRADE-R15

This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053

REC'D JUL 6 1982

REC'D JUL 6 1982

[Signature]

Registered Seed Technologist

[Signature]

Manager

11

03370/1/002

DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendix I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date FEBRUARY 22, 1982

Test No. 416504

Lot No. 0486-81

Kind & Variety (Producers Declaration)

FOUNDATION 0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	93 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	7 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	99.85 %	Test Weight	65.90 LBS.
Weed Seeds	.00 %	Moisture	10.40 %
Other Crop Seeds	.00 %	Total Weight of Sample Examined:	500.00
Total Inert Matter	.15 %	Dockage from 1,000 grams:	
Broken Seed	.02 %		
Other Inert	.13 %		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

BROKEN SEED
CHAFF
STONES

REMARKS: GRADE-R16

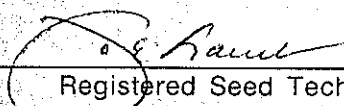
This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

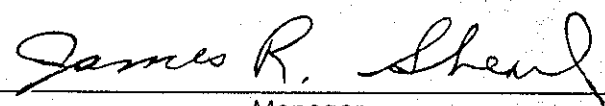
ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053

REC'D JUL 6 1982


Registered Seed Technologist


Manager

12

03370/1/002

DEKALB AGRESEARCH INC

MDF-13D Exhibit A. Appendix I.

Applicant

BOX 357
ILLIOPOLIS IL 62539

TEST Date APRIL 08, 1982

Test No. 420433

Lot No. 0486-81

Kind & Variety (Producers Declaration)

FOUNDATION 0486

CORN, FIELD

THIS SAMPLE MEETS CERTIFICATION REQUIREMENTS BASED ON SOURCE OF SEED,
FIELD INSPECTION AND LABORATORY ANALYSIS

GERMINATION REPORT: 400 Seeds

Germination	91 %	Strong	%	Cold Test	%
Hard Seed	%	Pod & Stem Blight	%	A-A Test	%
Dead Seed	9 %	Other Diseases	%	Tetrazolium	%

PURITY REPORT:

Pure Seed	%	Test Weight	65.20LBS.
Weed Seeds	%	Moisture	10.80%
Other Crop Seeds	%	Total Weight of Sample Examined:	500.00
Total Inert Matter	%	Dockage from 1,000 grams:	
Broken Seed	%		
Other Inert	%		

Noxious Weeds

NONE

Other Weed Seeds

NONE

Other Crop Seeds

NONE

Inert Matter

REMARKS: NO OTHER VARIETIES FOUND.


This certifies that the sample of seed submitted of the lot designated above has been analyzed in accordance with
the RULES FOR SEED TESTING AS ADOPTED BY THE ASSOCIATION OF OFFICIAL SEED ANALYSTS.
VIGOR TESTING INFORMATION CANNOT BE USED FOR LABELING PURPOSES.

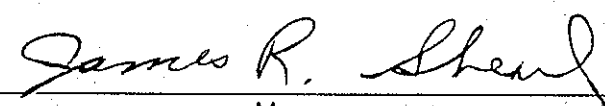
ILLINOIS CROP IMPROVEMENT ASSOCIATION, INC.

508 South Broadway, Urbana, Illinois 61801

Telephone: 217-367-4053

REC JUL 6 1982


Registered Seed Technologist


Manager

MDF-13D

Exhibit B, Novelty Statement.

MDF-13D is a yellow corn inbred. MDF-13D can best be described as being developed from Lancaster origin. Lancaster is an old land race that was grown in the eastern part of the U.S. and noted for a good general level of resistance to leaf diseases. C103 was a direct descendent of the Lancaster land race. As can be noted, C103 is a distant relative of MDF-13D and the 800 M composite is also an improved breeding composite related to the Lancaster land race. A more recent comparative public inbred related to the Lancaster land race would be Mo17.

The amount of husk leaves that cover the ear are statistically different in the MDF-13D vs. Mo17-H comparison. An additional ear characteristic which is statistically, significantly different is the number of kernel rows (12.6 vs. 10.4) with MDF-13D being larger. These data are presented in Exhibit B, Appendix I.

The picture of MDF-13D and Mo17-H ears shows the difference in kernel type, a flinty type for MDF-13D and a very pronounced dent for Mo17-H. The picture also shows the difference in cob color with MDF-13D having a white and Mo17-H having a red cob. (See Exhibit B, Appendix II.)

'MDF-13D' IS MOST SIMILAR TO Mo17HT (APPLICANT'S WETTER
OF AUG 18, 1983). RJS 9/11/83

MDF-13D

Exhibit B, Novelty Statement.

Appendum I.

MDF-13D vs. Mo17-H

Ear Characteristics	MDF-13D	Mo17-H	Testing Hypothesis
			$H_0: \mu_1 = \mu_2$ $H_A: \mu_1 \neq \mu_2$
1. Husk Number	$\bar{X}_1 = 8.2$	$\bar{X}_2 = 7.4$	Not significant ($\alpha = 0.1$)
2. Husk Area	$\bar{X}_1 = 1310.84$	$\bar{X}_2 = 1938.98$	Significant ($\alpha = 0.1$)
3. Husk Cover	$\bar{X}_1 = 6.7$	$\bar{X}_2 = 7.1$	Not significant ($\alpha = 0.1$)
4. Shank Length	$\bar{X}_1 = 13.1$	$\bar{X}_2 = 14$	Not significant ($\alpha = 0.1$)
5. Number of Kernel Rows	$\bar{X}_1 = 12.6$	$\bar{X}_2 = 10.4$	Significant ($\alpha = 0.1$)
6. Ear Length	$\bar{X}_1 = 19.4$	$\bar{X}_2 = 18$	Not significant ($\alpha = 0.1$)
7. Ear Diameter	$\bar{X}_1 = 3.3$	$\bar{X}_2 = 3.6$	Not significant ($\alpha = 0.1$)
8. Cob Diameter	$\bar{X}_1 = 2.2$	$\bar{X}_2 = 1.7$	Not significant ($\alpha = 0.1$)

1) $n_1 = n_2 = 5$

2) Detailed calculations are available.

MDF-13D

13B. Exhibit B, Novelty Statement.

Appendum II.



MDF-13D has a flint kernel and Mo17-H has a kernel with a pronounced dent in the cap. Also note that the cob color of MDF-13D is white and Mo17-H is red.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Corn)

OBJECTIVE DESCRIPTION OF VARIETY
CORN (ZEA MAYS)

MDF-13D

NAME OF APPLICANT(S) DEKALB AgResearch, Inc.	FOR OFFICIAL USE ONLY PVPO NUMBER 8200151
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) Sycamore Road DeKalb, IL 60115	VARIETY NAME OR TEMPORARY DESIGNATION MDF-13D

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g., or) when number is either 99 or less or 9 or less.

1. TYPE:

1 = SWEET

2 = DENT

3 = FLINT

4 = FLOUR

5 = POP

6 = ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

1 = NORTHWEST

2 = NORTHCENTRAL

3 = NORTHEAST

4 = SOUTHEAST

5 = SOUTHCENTRAL

6 = SOUTHWEST

7 = MOST REGIONS

3. MATURITY (In Region of Best Adaptability):

(Under "comments" (pg. 3) state how
heat units were calculated)

DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK

HEAT UNITS

DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY

HEAT UNITS

DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE

HEAT UNITS

4. PLANT:

CM. HEIGHT (To tassel tip)

CM. EAR HEIGHT (To base of top ear)

CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

1 = NONE

2 = 1-2

3 = 2-3

4 = > 3

Number of Ears Per Stalk:

1 = SINGLE

2 = SLIGHT TWO-EAR TENDENCY

3 = STRONG TWO-EAR TENDENCY 4 = THREE-EAR TENDENCY

Cytoplasm Type:

1 = NORMAL

2 = "T"

3 = "S"

4 = "C"

5 = OTHER (Specify)

5. LEAF (Field Corn Inbred Examples Given):

Color:

1 = LIGHT GREEN (HY)

2 = MEDIUM GREEN (WF9)

3 = DARK GREEN (B14)

4 = VERY DARK GREEN (K166)

Angle from Stalk (Upper half):

1 = < 30°

2 = 30-60°

3 = > 60°

Sheath Pubescence:

1 = LIGHT (W22)

2 = MEDIUM (WF9)

3 = HEAVY (OH26)

Marginal Waves:

1 = NONE (HY)

2 = FEW (WF9)

3 = MANY (OH7L)

Longitudinal Creases:

1 = ABSENT (OH51)

2 = FEW (OH56A)

3 = MANY (PA11)

Width:

CM. WIDEST POINT OF EAR NODE LEAF

Length:

CM. EAR NODE LEAF

NUMBER OF LEAVES PER MATURE PLANT

6. TASSEL:

1 0

NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

2

1 = $< 30^\circ$ 2 = $30-40^\circ$ 3 = $> 45^\circ$

Penduncle Length:

0 7

CM. FROM TOP LEAF TO BASAL BRANCHES

Pollen Shed:

3

1 = LIGHT (WF9)

2 = MEDIUM

3 = HEAVY (KY21)

1

Anther Color:

1 = YELLOW

2 = PINK

3 = RED

4 = PURPLE

5 = GREEN

5

Glume Color:

6 = OTHER (Specify) _____

Pollen Restoration for Cytoplasm (0 = Not Tested, 1 = Partial, 2 = Good)

T

S

2

C

OTHER (Specify Cytoplasm and degrees of restoration) _____

7. EAR (Husked Ear Data Except When Stated Otherwise):

1 9

CM LENGTH

3 8

MM. MID-POINT
DIAMETER

1 1 1

GM. WEIGHT

Kernel Rows:

2

1 = INDISTINCT

2 = DISTINCT

1 4

NUMBER

1

1 = STRAIGHT

2 = SLIGHTLY CURVED

3 = SPIRAL

Silk Color (Exposed at Silking Stage):

4

1 = GREEN

2 = PINK

3 = SALMON

4 = RED

Husk Color:

2

FRESH

1 = LIGHT GREEN

2 = DARK GREEN

3 = PINK

6

DRY

4 = RED

5 = PURPLE

6 = BUFF

Husk Extention: (Harvest Stage)

3

1 = SHORT (Ears Exposed) 2 = MEDIUM (Barely Covering Ear)

3 = LONG (8-10CM Beyond Ear Tip)

4 = VERY LONG (> 10 CM)

Husk Leaf:

3

1 = SHORT (< 8 CM)

2 = MEDIUM (8-15 CM)

3 = LONG (> 15 CM)

Shank:

1 9

CM LONG

7

NO. OF INTERNODES

Position at Dry Husk Stage:

1

1 = UPRIGHT

2 = HORIZONTAL

3 = PENDENT

Taper:

1

1 = SLIGHT

2 = AVERAGE

3 = EXTREME

Drying Time (Unhusked Ear):

2

1 = SLOW

2 = AVERAGE

3 = FAST

8. KERNEL (Dried):

Size (From Ear Mid-Point):

0 9

MM LONG

0 8

MM. WIDE

0 5

MM. THICK

Shape Grade (% Rounds)

3

1 = < 20

2 = 20-40

3 = 40-60

4 = 60-80

5 = > 80

8. KERNEL (Dried) :

3

Pericarp Color:

1 = COLORLESS

2 = RED-WHITE CROWN

3 = TAN

4 = BRONZE

5 = BROWN

6 = LIGHT RED

7 = CHERRY RED

8 = VARIEGATED (Describe) _____

1

Aleurone Color:

1 = HOMOZYGOUS

2 = SEGREGATING (Describe) _____

1 0

1 = WHITE

2 = PINK

3 = TAN

4 = BROWN

5 = BRONZE

6 = RED

7 = PURPLE

8 = PALE PURPLE

9 = VARIEGATED (Describe) _____

10 = Yellow

3

Endosperm Color:

1 = WHITE

2 = PALE YELLOW

3 = YELLOW

4 = PINK-ORANGE

5 = WHITE CAP.

Endosperm Type:

3

1 = SWEET (su1)

2 = EXTRA SWEET (sh2)

3 = NORMAL STARCH

4 = HIGH AMYLOSE STARCH

5 = WAXY STARCH

6 = HIGH PROTEIN

7 = HIGH LYSINE

8 = OTHER (Specify) _____

2 6

GM. WEIGHT /100 SEEDS (Unsize Sample)

9. COB:

2 5

MM. DIAMETER AT MID-POINT

Strength:

2

1 = WEAK

2 = STRONG

Color:

1

1 = WHITE

2 = PINK

3 = RED

4 = BROWN

5 = VARIEGATED

6 OTHER (Specify) _____

10. DISEASE RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

0

STALK ROT (Diplodia)

0

STALK ROT (Fusarium)

0

STALK ROT (Gibberella)

1.8

NORTHERN LEAF BLIGHT

1.9

SOUTHERN LEAF BLIGHT

0

SMUT

0

SOUTHERN RUST

0

CORN SMUT

0

BACTERIAL WILT

0

BACTERIAL LEAF BLIGHT

0

MAIZE DWARF MOSAIC

0

STUNT

0

OTHER (Specify) _____

11. INSECT RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

1.6

CORNBORER

0

EARWORM

0

SAPBEETLE

2

APHID

0

ROOTWORM (Northern)

0

ROOTWORM (Western)

0

ROOTWORM (Southern)

1.6

OTHER (Specify) 2nd brood ECB

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity	Mo17H	Kernel Type	
Plant Type		Quality (Edible)	
Ear Type		Usage	Mo17H

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.

Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Numerous (Authors)

Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Maize. Cornell A.E.S., Mem. 180. 1935.

The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.

Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S. Bul. 831. 1959.

Butler, D.R. 1954 - A System for the Classification of Corn Inbred Lines - PhD. Thesis, Ohio State University.

COMMENTS:

Heat unit calculations:

$$GDD = \text{Daily max. temp. (86°F)} + \text{Daily min. temp. (50°F)} - 50°F \quad 19$$

MDF-13D

Exhibit D, Additional Description of the Variety.

The isozyme analysis of Mo17-H and MDF-13D shows genetic differences at 3 different loci: Acph - 2 vs. 3, Pgm2 - 8 vs. 4, and Phi - 4 vs. 5, respectively. (Exhibit D, Appendix I)

MDF-13D

Exhibit D, Additional Description of the Variety.

Appendum I.

Isozyme genotypes of Mo17H and MDF-13D

Locus	Alleles Present	
	Mo17H	MDF-13D
Acph	2	3
Adh	4	4
Cat	9	9
Ep	6	6
Got1	4	4
Got2	4	4
Got3	4	4
β -Glu	6	6
Idh1	4	4
Idh2	4	4
Mdh1	6(N)+	6(N)+
Mdh2	6	6
Mdh3	16	16
Mdh4	12	12
Mdh5	N	N
Pgm1	9	9
Pgm2	8	4
Phi	4	5
# Plants Assayed	6	25

+Allele is 6 or null.

The technique of using isozymes for genotyping or "fingerprinting" is described by the following reference:

Goodman, M.M. and C.W. Stuber. 1980. Genetic identification of lines and crosses using isoenzyme electrophoresis. Proceedings of the Thirty-fifth Annual Corn & Sorghum Industry Research Conference.